DOCUMENT RESUME

ED 207 837 SE 035 660

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TITLE Some Models of Mathematics Teachers' Centres.
PUB DATE 81
NOTE 8p.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Inservice Teacher Education; *Mathematics Education; Mathematics Instruction; *Program Descriptions; Program Design; *Teacher Centers; *Teacher Education
IDENTIFIERS *England (London); *Mathematics Centers

ABSTRACT

There are two types of teacher centres in Great Britain, multi-purpose centres designed for all subjects of the curriculum, and topical centres which deal specifically with one area of subject matter such as mathematics, English, etc. In this paper, the five mathematics centres in London are analyzed for purpose, materials available, and individual emphasis in each centre. Materials are described in detail and significance of the British system for U.S. teacher training is noted. (Author)

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Some Models of Mathematics Teachers' Centres

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Philippa Fawcett, even the name conjures up visions of someone or something pleasant, poetic and peaceful. In reality, however, it is the name of one of the mathematics centres in London. At the present time over 40 teachers' centres have been established throughout London and are concerned with the in-service education and training of teachers provided by the Local Education Authorities. A pattern of one multi-purpose centre in each division of the city has been provided and in addition, a variety of centres specialising in different subjects. The five mathematics centres in London will be the thrust of this paper.

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It seems expedient at this point to define some of the British education terms. The local multi-purpose teachers' centres deals with most aspects of the teachers in-service requirements over the entire spectrum of the curriculum. The specialized ones deal with particular subject matter areas such as English, Science, Drama, etc.

Infant Schools are for pupils between the ages of 5 and 7 and is sometimes part of a primary school and sometimes a separate school. Junior school is for pupils aged 7 to 11 years and it too is sometimes part of a primary school and sometimes a separate school. Middle schools are for children between 8 and 12 or 9 and 13 or 10 and 14. Middle schools are usually part of a three-tier system of education. Secondary school is for pupils between 11 and 18 or 19. Types of secondary school include comprehensive school, grammar school, high school and secondary modern school. The British abbreviation for mathematics is maths, rather than our math and their centers are spelled centres, so their spelling has been used throughout this paper.

A variety of courses and other activities are offered in a relaxed and informal atmosphere to teachers, mainly in the late afternoon and early evening. The courses often help new teachers become acquainted with current approaches and methods in the teaching of mathematics and to become familiar with the area in which the students live.

The five mathematics teachers' centres are Abbey Wood, Ladbroke, Philippa Fawcett, SMILE, and William Tyndale. All the centres hold courses on various aspects of the teaching of mathematics but each one has a slightly different point of emphasis.

Abbey Wood's staff visit schools to discuss problems, demonstrate equipment, etc. and materials and texts can be inspected and discussed at the centre. Facilities for making mathematics materials also are available. Ladbroke Centre contains a very extensive range of equipment, books and assignment cards, and runs courses for nursery, infant, junior and secondary teachers. Philippa Fawcett Centre, in addition to offering the services as listed above, offers a duplicating service of mathematical materials for schools. Also teachers can borrow books, workcards and packs on a short term basis. The SMILE Centre acts as a focus for the activities of secondary schools who produce and use SMILE materials. Short courses and workshops as well as after-school meetings are held regularly. An annual weekend conference is also organixed. William Tyndale Centre serves teachers at all school levels.

Materials generally available at the teachers' centres are duplicators, 16mm and 8mm projectors, craft bench, A/V equipment, photocopier, electronic stencil cutter, jumbo typewriter, loop projectors, still and cinema camera, and sound recordings.

Since more of my time was spent visiting and observing in the Philippa Fawcett Centre, I shall devote the rest of this paper to a discussion of that centre, although in general, the information would be accurate for the other four centres too. Philippa Fawcett Centre is located in a lovely residential setting, with well-kept grounds and buildings. A glance at the course offerings gives an excellent insight into the types of in-service training available to London teachers. A brief description of the major ones follows.

The course, Mathematics in the Infant Classroom, consists of four sessions and covers Sets, Numbers, Measures and Geometry. It is concerned with classroom approach as well as mathematical ideas.

Another popular course, Using Checkpoints, is designed to help teachers familiarise themselves with the cards, using the cards in the classroom, and the construction of other assessment activities. The Organization of Mathematics in the Primary School is designed for Headteachers and others with special responsibility for mathematics in Junior and Infant Schools, and includes methods of designing a curriculum, selection of resources and assessment. Very little time is devoted to mathematical content. Problem Solving in the Primary School discusses various problem-solving materials that have been piloted in local schools and the progress results that have been obtained from their usage. Cuddly Maths introduces mathematical skills into the use of design and execution of needlework and embroidery. It gives insights into how mathematics can be enriched by practical work of this type. An added bonus is that each teacher makes a Cuddly Toy which they can keep!

For secondary teachers only,there is Problem Solving in the Secondary School to introduce some of the commercial problem-solving material available, which is both suitable for and interesting to secondary age children possessing a wide range of ability. Calculators in the Secondary School,stresses the enrichment possibilities for number work and where calculators can be useful.

The number of sessions scheduled for all the above described courses range from one session only, of an hour and a half, to two sessions lasting all day for others.

The materials available from the teachers' centres range from Mathspacks such as Spirals which contains a wide variety of methods of constructing spirals and Hinges which leads pupils to experiment with a variety of flexing models to Maths for slow learners. Also

included are Junior maths topic kits and Primary school mathematics aids that contain games, activities and simple apparatus for experiments.

The Head Warden graciously shared many materials with me which in turn have been demonstrated with public school teachers of mathematics. The materials included a Primary Maths schedule of when mathematical concepts of Sets, Numbers, Measures and Geometry should be introduced and the specifics to be taught at each level. One of the most interesting ideas that the British have developed is that of checkpoints for assessing children's mathematical progess. A booklet, Checkpoints, has been published containing about 120 concepts, skills, facts and applications which children should acquire during the primary school years. These form a framework for assessing children's progress in mathematics.

To help teachers utilize these ideas, Checkpoints assessment cards have been developed. They are made to help teachers observe and assess children while they are working on mathematical activities. Each card describes an activity designed to show whether a child has grasped the particular mathematical idea, skill, or fact specified in the checkpoint. It lists the responses a child may give and what they indicate about previous learning plus suggestions of activities for children who seem to need more help. The cards are 12 by 8 1/2 inches and state the skill, instruction for the teacher for materials to get ready, ideas as to what may happen by the child, background mathematical information for the teacher and suggestions for children who need more help. Examples of skills or concepts assessed are Modeling with the Number Line, Inventing Number Sentences, Place Value (Three Digits) and Understanding Instructions about Objects. The size of the cards, their laminated protection and the wealth of information provided without

crowding make them an extraordinary teaching tool.

Also provided at the teachers' centres are documents produced by mathematics teachers and staff of the centres to help teachers put into practice some of the work of the curriculum guidelines by developing a teaching scheme. An example is one learning about length and distance. The environmental activities and experiences were developed, materials and equipment noted, language difficulties and technical terms listed, recording of their learning experiences by the children and methods of assessing achievement given. We might refer to such a paper as a unit in the United States.

In summarizing my impressions of the values of the mathematics teachers' centres, I must say that I was very impressed with the dedication and enthusiasm of the Wardens and teachers in the institutions to help teachers improve their skills and understanding of mathematics. Their enthusiasm was apparent for every phase of the program. It also was encouraging to be able to study their progressive and excellent materials that are available for teachers for free or at low cost. Teachers can attend the centres in a relazed setting where no grades are given, so it is quite different from taking university courses. The closest equivalent in our country would be informal workshops or the very few existing teacher centers. But Britain, like the United States, is feeling budget restraints so the future of the centres is no as bright as it once was. The loss of the centres will constitute a great loss to British education for they serve a distinct need.

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